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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/998,724	11/30/2001	Rolf Bruck	E-41365	7179

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EXAMINER

DUONG, THANH P

ART UNIT PAPER NUMBER

1764

DATE MAILED: 03/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/998,724	Applicant(s) BRUCK, ROLF	
	Examiner Tom P. Duong	Art Unit 1764	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 and 13-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 5-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicant's remarks and amendments filed on January 6, 2006 have been carefully considered. Claims 1-2, 5, 8, and 11 have been amended. Claim 12 has been canceled. Claims 1-4 have been withdrawn from consideration. Claims 1-11 and 13-28 are pending in this application.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 11, 16, 25, and 27-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Bauer et al. (5,714,103). Bauer et al. discloses a honeycomb body (Col. 6, lines 57-67), comprising: channels through which a fluid can flow; a plastically deformable and subsequently consolidatable first mass being predeterminably (Col. 3, lines 15-67) applied in printed layers and consolidated (Col. 4, lines 17-28); at least one second mass forming another printed layer along a section through the honeycomb body next to said first mass; said first mass having a property different from that of said second mass (Col. 3, lines 15-30); and walls all being entirely formed of said printed layers (Col. 4,

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lines 17-28) and defining said channels (longitudinal pores); and the honeycomb body is formed completely of ceramic (Col. 3 lines 15-30). Bauer discloses the layers (Col. 4, lines 16-27) can be formed desirable shapes including flat shapes. Regarding claims 27 and 28, the fluid flow orientation with respect to the honeycomb body does not impart patentability to the claims. Note, expression relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim. *Ex parte Thibault*, 164 USPQ 666, 667 (Bd App. 1969) and *In re Young*, 75, F.2d 966, 25 USPQ 69 (CCPA 1935

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 5-7, 14, and 17-20 rejected under 35 U.S.C. 103(a) as being unpatentable over Bauer et al. '103 in view of Maus et al. (5,474,746).

Regarding claims 5 and 7, Bauer '103 discloses a honeycomb body (Col. 6, lines 57-67) comprising: ceramic walls all being entirely formed of printed layers (Col. 3, lines 15-67) forming channels through which a fluid can flow, said channels lying next to one another. Bauer '103 fails to disclose at least one at least one measuring sensor and an electrically conductive mass integrated into one of said

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ceramic walls. Maus '746 teaches at least one temperature sensor and/or heat conductor 17 (Abstract and Col. 2, lines 44-49) extending between the honeycomb corrugated layers 21 and 22 (Fig. 2) to measure the wall temperature of the catalytic converter (Col. 3, lines 55-60). Thus, it would have been obvious in view of Maus '746 to one having ordinary skill in the art to modify the honeycomb body of Bauer '103 with a temperature sensor and/or measuring conductor as taught by Maus '746 in order to measure the wall temperature of the honeycomb body. Regarding claim 6, the combination of Bauer '103 in view of Maus '746 provide a honeycomb body with at least one of said measuring sensor and said electrically conductive mass surrounded completely by ceramic. Regarding claim 14, the applied references disclose it is conventional to fabricate the honeycomb body with ceramic and/or combination of ceramic and non-ceramic materials and it would have been obvious in view of the applied references to one having ordinary skill in the art to select a known material for the honeycomb body based on its intended use. See *In re Leshin*, 227 F.2d 197, 125 USPQ 416 (CCPA 1960). Regarding claim 17, Bauer discloses the layers (Col. 4, lines 16-27) can be formed desirable shapes including flat shapes. Furthermore, the court held that a change in shape is obvious over the prior art in the absent of unexpected results. See *In re Dailey*, 357 F.2d 669, 149, USPQ 47 (CCPA 1966). Regarding claims 18 and 19, the fluid flow orientation with respect to the honeycomb body does not impart patentability to the claims. Note, expression relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus

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claim. *Ex parte Thibault*, 164 USPQ 666, 667 (Bd App. 1969) and *In re Young*, 75, F.2d 966, 25 USPQ 69 (CCPA 1935). Regarding claim 20, Bauer '103 discloses the layers (Col. 4, lines 17-28) have a three-dimensional interconnecting pore structure (Col. 6, line 62- Col. 7, lines 1-4).

3. Claims 8-10, 15, and 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bauer '103 in view of Maus (5,130,208). Regarding claims 8-10 and 24, Bauer '103 discloses a honeycomb body (Abstract), comprising: at least partially ceramic walls all being entirely forming of printed layers (Col. 4, lines 17-28) forming channels through which a fluid can flow, said channels lying next to one another. Bauer '103 fails to disclose at least one of said walls having a structure for influencing a throughflow of the fluid; said structure is disposed at least one of longitudinally, transversely and obliquely relative to a direction of the throughflow the fluid in the channels (Figs. 1); and said structure is one of wavy and zigzag-shaped (Fig. 1). Maus '208 teaches walls having structure (inverted regions 4 and 5) which is disposed at least one of longitudinally, transversely and obliquely relative to a direction of the throughflow the fluid in the channels (Figs. 1-3); and said structure is one of wavy and zigzag-shaped (Fig. 1-3).

Incorporating such structure (inverted regions) in the honeycomb channels provides a higher catalytic conversion rate than conventional honeycomb body (Col. 2, lines 54-59). Thus, it would have been obvious in view of Maus '208 to one having ordinary skill in the art to modify the honeycomb body of Bauer '103 with the structure as taught by Maus '208 in order to achieve a higher catalytic

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conversion rate in the honeycomb body. Regarding claim 15, the applied references disclose it is conventional to fabricate the honeycomb body with ceramic and/or combination of ceramic and non-ceramic materials and it would have been obvious in view of the applied references to one having ordinary skill in the art to select a known material for the honeycomb body based on its intended use. See *In re Leshin*, 227 F.2d 197, 125 USPQ 416 (CCPA 1960). Regarding claim 21, Bauer discloses the layers (Col. 4, lines 16-27) can be formed desirable shapes including flat shapes. Furthermore, the court held that a change in shape is obvious over the prior art in the absence of unexpected results. See *In re Dailey*, 357 F.2d 669, 149, USPQ 47 (CCPA 1966). Regarding claims 22 and 23, the fluid flow orientation with respect to the honeycomb body does not impart patentability to the claims. Note, expression relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim. *Ex parte Thibault*, 164 USPQ 666, 667 (Bd App. 1969) and *In re Young*, 75, F.2d 966, 25 USPQ 69 (CCPA 1935). Regarding claim 24, Bauer '103 discloses the layers (Col. 4, lines 17-28) have a three-dimensional interconnecting pore structure (Col. 6, line 62- Col. 7, lines 1-4).

4. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bauer '103 in view of Ohashi et al. '347. Bauer '103 discloses the claimed invention except an orifice formed therein from one of said channels to another of said channels as a passage for the fluid. Ohashi teaches the orifice (through

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holes 33) is formed onto the partition walls 32a and 32b to create a turbulence flow in a stream of fluid (Col. 6, lines 40-49) to improve mass and heat transfer (Col. 5, lines 1-9). Thus, it would have been obvious in view of Ohashi to one having ordinary skill in the art to modify the honeycomb body of Bauer with the orifice as taught by Ohashi in order to create turbulent flow for the fluid, which improves mass and heat transfer.

Response to Arguments

Applicant's arguments with respect to claims 1-11 and 13-28 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom P. Duong whose telephone number is (571) 272-2794. The examiner can normally be reached on 8:00AM - 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tom Duong
March 8, 2006

(Tb)



Glenn Caidarola
Supervisory Patent Examiner
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